Periscope.

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MELANCHOLIA, FROM THE PHYSIOLOGICAL AND EVOLUTIONARY POINT OF VIEW.

The "Journal of Mental Science," January, 1890, contains George M. Robertson's paper upon this interesting subject. Probably no form of insanity includes so many varieties, or is characterized by such peculiar and even contradictory symptoms as melancholia. The excitement may, at times, equal that of acute mania, or the passivity may be that of absolute inertia. What explanation is there of these diverse symptoms in melancholia? In answering this question, the fact must be borne in mind that the investigation concerns the functions of an organ which has become diseased—the brain—the function in this case being the production of depressed or painful emotions. To understand aright this abnormal function, a careful study of depressed or painful emotion in a healthy brain is the first step. Health (Hamilton) has been defined as "that condition of structure and function . . . . which we find to be commonest," and disease as "any departure from the normal (or healthy) standard of structure or function." Health and disease are relative terms, without a sharp dividing line. Most of the symptoms of melancholia can be traced to some normal function. Darwin has shown that many of the expressions of emotion in man are the modifications of similar expressions in the lower animals. If reversion to older and lower types takes place, the expression of emotion in diseased states may acquire a closer resemblance to the same emotion in the lower animals. A light appears to be thrown on some of the symptoms of melancholia by this assumption.

Depressed emotion in health comprises at least three important elements: a characteristic feeling of depression or pain, the train of ideas associated with this feeling, and the special relationship to different bodily organs, particularly the muscular system. Depressions may range from sensations of slight uneasiness or unhappiness to those of fright and the most abject terror. In depressed emotion, there is a sudden interruption to the normal flow of ideas, and thoughts are stimulated which are all of a gloomy or disagreeable nature. Owing to this fact the judgment is impaired. If the sudden interruption to the flow of ideas be great, temporary confusion may result. The most wonderful and characteristic accompaniments of the emotions, however, are the changes in the bodily organs, including the muscular system. These organic changes are not merely the expression or effect of the emotion. They are its "material cause and support." Experimentally, this receives confirmation from observations in hypnotism. Organic changes in depressed or painful emotion extend over a wide range and include voluntary muscles—thus tone being increased or diminished—and involuntary muscles, like those of the heart, intestines, etc., together with vasomotor, respiratory and secretory disturbances.

It is possible to be greatly depressed, to find no delight in man, or woman either, to think nothing worth while, and to desire annihilation without being insane. The Rubicon of insanity is, however, crossed when once the judgment—that is, the ideational element of the emotion—becomes much impaired. The symptoms then differ in marked degree from the normal. Thus, a man suffering from deep sorrow cannot carry on a conversation, cannot think, and holds biased opinions. The condition may be only temporary. When carried over into the domain of disease it is called passing melancholia. If ideation becomes more impaired, he passes from the holding false opinions to the state of entertaining delusions; and if these refer to phenomena outside himself, the condition is one of delusional melancholia. If, added to the impaired judgment, the want of pleasure in organic and other sensations and the feeling of bodily ill-being become more marked, and if the delusions are concerning the patient's bodily health, the condition is that of hypochondriacal melancholia. When some one delusion concerning bodily health, usually an abdominal organ, becomes a fixed idea and is regarded with profound sorrow as the cause of all depression and woe, the variety of insanity it represents has been called visceral melancholia. If, instead, the wish to be dead and away, with occasional thoughts of suicide, there is a constant desire on the part of the patient to kill himself—whether founded on a delusion or in order to escape present intense misery—the variety is termed suicidal melancholia. Here, then, are five clinical types of depression in abnormal function of the brain. In none of these five types has any new symptom been suddenly sprung upon us; all the symptoms are seen to be developments of phenomena which exist in health, from which their origin is obvious.

Active melancholia, of which the chief symptoms are motor excitement, resistance, violence and confusion, bears a close relation to normal terror. The frightened child gives a loud, high-pitched scream, and the breathing becomes agitated. The eyebrows are drawn up, the eyes stare and protrude, the mouth is open, the facial muscles are tensely contracted, and even the hair may stand on end. General muscular tension is very great and the child may run away. If caught by the object of its terror, it fights, struggles and screams with extraordinary violence till exhausted. The disturbance to the train of ideas is very great, and mental confusion and want of judgment prevail. Similar conditions prevail in timid lower animals, as birds and rabbits. From the motor point of view, melancholia with stupor has been defined as "more or less complete loss of reaction to stimuli." (Savage). There is a vasucrio expression, the patient standing or sitting for hours in the same position, taking no notice when spoken to, and without interest or desire of any kind. The hands and feet are cold. This corresponds with that state in health when persons say they are paralyzed wirh fright. and are powerless to move, even for self-preservation. It is commonly seen in lower animals, as where a rabbit lies on its side and allows a weazel to approach it. The so-called charm exercised by snakes over birds is believed also (Faytele) to be an example of it. Intense fear usually exists, but not always. Dr. Livingstone felt no pain or fear, but was paralyzed when in the clutches of a lion.

The chief varieties of melancholia—passive, active, and with stupor—though dissimilar, but show their relationship by a tendency into one another. Having studied them physiologically, their consideration from the evolutionary point of view is next in order, to explain their primary origin.

The finer and more complex emotions are developed from the coarser and more simple. Anxiety is only fright spread out thin (Hughlings-Jackson). Fear or fright in unevolved man or lower animals is the origin of depressed emotion. The struggles and combats of mankind's remote ancestors in the distant long agoes have given the prostration, pallor, perspiration, trembling, or complete relaxation of the muscles that to-day mark normal or abnormal depression. In those emotions produced by anticipations of future misery, there is increased tone and excitement; in those which dwell upon the past, there is relaxation. By action and resistance we may surmount danger; hence, increased tone. When the time for action is passed, or action is useless, there is relaxation, despair. The tension of the muscles in active melancholia takes the form of resistance, and usually combined with it is the allied mental condition of obstinacy. The patients seem to resist on principle anything and everything that is done for them. Their perpetual meaningless resistance can only be explained on the struggling animal theory.

Violence in melancholia may be perpetual or sudden; and the tendency of melancholiacs to strike when thwarted closely resembles the actions of a struggling animal. A desire to kill is not surprising, if evolved from a condition in which one animal is doing its utmost to kill another. Restlessness, aimless wandering, or a desire to run away, are expressions similar to those of wild animals in menageries, who walk up and down their cages. Then there is the same mournful standing in one place for a long time, after the fashion of caged creatures.

Darwin states that when suffering severe pain, groaning brings relief, by letting off energy; and after the habit is formed, one groans reflexly, by association of painful states, in mental depression. Sufferers from melancholia often render day and night hideous by their shouts and cries, which are probably derived from the scream of terror, the frightened call for help, that is common to man and lower animals. The staring eyes also resemble those of a frightened animal, which opens the eyes widely, that there may be no obstruction to vision, in order to discover the enemy or means of escape. The melancholiac is also selfish, like an animal struggling for existence, who thus is looking out for number one in a pre-eminent degree. Destructiveness, cruelty, indecency, untruth, cannot be explained satisfactorily on the ground of mere depression. But regarded from the standpoint of the evolution of emotion in an animal struggling for its life, bent on doing injury, and exercising no self-control, these things are better understood. The coldness of the extremities and feebleness of circulation is analogous to the muscular and cardiac exhaustion which succeeds a mortal combat. The drooping of the eye-lids, the general languor and paralysis of the sphincters, is due to the same collapse. Refusal to take food is common to birds and animals in captivity, and is probably owing to depressed emotion. Bristling of the hair, which may occur in a small percentage of cases, and a downy appearance of the face, owing to the fine hairs being erect, are manifestations analogous to the erection of the hair or feathers of a frightened animal, in order that it may appear larger and more dangerous to its assailant. Fear increases the amount and watery constituents of urine.

Diabetes insipidus existed in one melancholiac under observation. In terror there is also an increased secretion of sweat. This has not been observed in melancholia. Catalepsy, comparatively rare in melancholia, the author thinks is derived physiologically from the "fixation" of surprise. For example: when eating, and in the act of raising a spoon to the mouth, some occurrence may cause surprise, and the individual will hold the spoon in a fixed position for a considerable time near the lips. In this fixation, Robertson thinks, we have the physiological elements of catalepsy. In the lower animals this tendency has been highly developed by natural selection, having proved useful under certain circumstances, and is the real explanation of the so-called simulation of death by insects and animals.

Darwin investigated this question of shamming death among insects, and after many observations found that in no one instance was the attitude similar to that of a dead insect of the same species, and in many cases it was very unlike. He came to the conclusion that the position was due to the paralyzing effects of excessive fear. There is probably no conscious simulation of death; the condition may be due to an exaggeration of the fixation in surprised fright. It occurs in nearly all classes of the animal kingdom (Romanes), probably best seen in mice. That this condition is a cataleptic stupor produced by fright is believed by several eminent comparative psychologists (Romanes, Preyer, Duncan, Couch). There is also a connection between this condition in the lower animals and catalepsy in melancholia, in a number of recorded cases of sudden catalepsy produced by fright, may be regarded as bridging over the borderland of health and disease.

Nightmare is also probably analogous to fright, rigidity, and catalepsy.

NEURASTHENIA OR ANÆMIA.

In La Province Médicale, Feb. 22, 1890, L. Bouveret states, careful discrimination is sometimes necessary to avoid mistaking one of these conditions for the other, for many physicians are in the habit of calling anæmic all patients who complain of nervous phenomena not attributable to organ nerve-centre abnormity. A large number of neurasthenic men, as well as women, are not in the slightest degree anæmic, the blood in color and composition being perfectly normal. Intense anæmia undermines nerve function; and the functional nerve troubles thus brought about bear a certain resemblance to nerve exhaustion.